the typography is excellent. The great value of this work, indispensable to algologists, lies in the fact that it is not a catalogue prepared by a professional catalogue-maker, but an Index arranged by an expert in the subject who has a thorough practical acquaintance with the Desmids themselves. W. G. F.

6. *Die Protrophie;* by Dr. Arthur Minks. Berlin, 1896. pp. 247, 8vo.—Early in 1896, Dr. Minks gave a preliminary account in the Oester. Bot. Zeit. of what he terms "eine neue Lebensgemeinschaft." The present volume gives a detailed account of his discovery. The discovery may perhaps better be styled an invention, for the name protrophie designates a condition previously recognized in certain lichens, as *Biatora intumescens*, by which they at first exist in a parasitic condition on other lichens and, after destroying them, lead an independent existence. To this condition Malme, who is a Schwendenerite, gave the name of Antagonistic Symbiosis. Minks, who is far from being a Schwendenerite, calls it Protrophie. By those who do not feel called upon to advocate any particular hypothesis, it might be supposed that it would be as well to speak of it simply as a case of parasitism, and in some, at least, of the cases cited by Minks the inquiry seems pertinent whether the protrophic plants should not be called fungi rather than lichens. On that point, however, discussion is out of the question, because what is or is not a lichen is a point on which lichenologists and mycologists have never been able to agree. W. G. F.

7. *The supposed great Octopus of Florida; certainly not a Cephalopod.*—Additional facts have been ascertained and specimens received, that render it quite certain that this remarkable structure is not the body of a Cephalopod. It was described by me, in the February number of this Journal, as the body of an Octopus,* from the examination of a number of photographs, and the statement made to me that, when it was first cast ashore, stumps of arms were found adherent to one end, one of which was said to have been 36 feet long.† Subsequently, when it was excavated and moved, this statement proved to be erroneous. Apparently nothing that can be called stumps of arms, or any other appendages, were present. Folds of the integument and muti-

* Many other zoölogists who examined the photographs held the same opinion. Some of those who have seen the samples of integument sent to me still believe that the specimen may be the body of some unknown genus of Cephalopods, allied to *Octopus*. But the thick integument of a Cephalopod is necessarily muscular and highly contractile, while in this creature it is elastic and resistant, and not at all contractile. Therefore I cannot refer it to that group, after having examined this structure.

† The following is the written statement, made by Mr. Wilson to Dr. Webb, in regard to the "arms" that he found when it first went ashore: "One arm was lying west of body, 23 feet long; one stump of arm, west of body, about 4 feet; three arms lying south of body and from appearances attached to same (although I did not dig quite to body, as it laid well down in the sand, and I was very tired), longest one measured over 32 feet; the other arms were 3 to 5 feet shorter." Soon after this examination the specimen went adrift in another severe storm and was again cast ashore two miles farther south, which will probably account for the loss of these supposed arms.

lated and partly detached portions may have been mistaken for such structures. No bones or other hard parts were found in it.

Dr. Webb has recently sent to me several large masses of the integument of the creature, preserved fairly well in formalin. These masses are from 3 to 10 inches thick, and instead of being muscular, as had been thought, they have a structure similar to the hard, elastic variety of blubber-like integument found on the head of certain cetaceans, such as the sperm whale. They contain very little oil and cannot be called true blubber. They are firm, very tough and elastic, and composed mainly of much interlaced fibers and large bundles of tough, fibrous, white connective tissue. They are difficult to cut or tear apart, especially where indurated by partial drying. Some large irregular canals permeate the inner and less dense portions of the thick masses. These may have contained blood vessels originally. From the inner surface of some of the pieces large cords of elastic fibers proceeded inward. These now hang loosely from the masses of integument. Dr. Webb states that these were found attached on all sides to a long saccular organ, which occupied most of the central cavity of the great mass. No muscular fibers were present in the specimens sent. Perhaps the muscular tissues of the inner surfaces, if any were present originally, have decayed, but the tough fibrous mass does not show much decomposition. The outer surface shows in some places a tough, thin, gray, rather rough skin-like layer, that may be the remains of the outer skin. It looks a little like the skin of some fishes from which the scales have been removed. From these facts I am led to believe that the mass cast ashore is only a fragment, probably from the head, of some huge vertebrate animal, covered with a blubber-like layer of great thickness.

Although such an integument might, perhaps, be supposed compatible with the structure of some unknown fish* or reptile, it is certain that it is more like the integument found upon the upper part of the head of a sperm whale than anything else that I know. If we could imagine a sperm whale with the head prolonged far forward in the form of a great blunt, saccular snout, freely projecting beyond the upper jaw, and with a great central cavity, it might, if detached and eroded by the surf, present an appearance something like the mass cast ashore. It hardly seems possible, however, that the abruptly truncated and narrow snout of the common sperm whale could take on, even after being long tossed about by the waves, a form like this. No whaler who has seen it has recognized it as any part of a whale. It does not seem possible to identify such a large, hollow, pear-shaped sac, 21 feet long, with any part of an ordinary sperm whale unless its nose had become enlarged and distorted by disease, or possibly by extreme old age. No blowhole was discovered.

The specimen has now been moved several miles nearer to St. Augustine and enclosed by a fence to protect it from the drifting sand. It is likely to remain in nearly its present state for several months more.

A. E. VERRILL.

* The integument of *Orthagoriscus mola*, the great sun-fish, is very thick and elastic, but unlike this in structure.